

An Annotated List of Formosan Snakes, with Descriptions  
of Four New Species and One New Subspecies.

By

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In Dr. Stejneger's "Herpetology of Japan and Adjacent Territory" (published in 1907), there are mentioned in all 29 species of snakes as being known from the island of Formosa. My studies on Formosan snakes from specimens contained in the Formosan Museum at Taihoku (or Taipeh) and in the collection of the Medical School as well as in that of the Bureau of Scientific Researches in the same city, have enabled me to make 12 additions to the list. Of that number, I consider 5, viz., 4 species and 1 subspecies, to be new to science. In the following I propose to give a complete list of the Formosan snake fauna as known at present, together with descriptions of the new forms and with what notes and measurements I have taken from specimens of those already known. In the systematic arrangement I have followed Dr. Stejneger.

Here I beg to tender my thanks to Prof. Ijima and Mr. Namiye for assistance in various ways. My thanks are also due to Mr. Kawakami of the Formosan Museum and to Mr. Horiuchi of the Medical School for permissions to examine the specimens under their care.

## ORDER SQUAMATA.

## Suborder Serpentes.

## Family Typhlopidae.

1. *Typhlops braminus* (Daudin).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector	Scale rows.	Total length. m.m.	Length of tail. m.m.	Diameter. m.m.
B. Sci. Res	1	Kontei, Kōshun	May 30, 1909	Oshima	20	163	3.5	4
"	2	"	"	"	20	155	3	4
"	3	"	"	"	20	181	3	4.5
Formosan Mus.	1	....	....	Kikuchi	20	141	3	2
"	2	....	....	"	20	160	4	4
Medical School	1	Tainan	1904	....	20	158	4	4
"	2	"	1904	....	20	165	4	4

2. *Typhlops leucoproctus* (Boulenger).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Total length. m.m.	Length of tail. m.m.	Diameter. m.m.
B. Sci. Res	4	Kuraru, Kōshun	May 29 1909	Oshima	20	287	3	6
"	5	"	"	"	20	273	4	7

Remark.—Tail comparatively shorter than in typical *T. leucoproctus*.

## Family Natricidæ.

## Subfamily Natricinæ.

3. *Natrix stolata* (Linnaeus).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	6	....	....	....	19	148	2	71	1,3	1+2	8	m.m. 445	m.m. 105
"	3	Ilorisha	Nov. 1, 1907	Kikuchi	19	142	2	36	1,4	1+2	8	580	80
"	4	Kagi	June 5, 1907	"	19	150	2	76	1,3	1+2	8	539	143
"	5	"	"	"	19	152	2	79	1,4	1+2	8	626	156
"	6	"	"	"	19	151	2	....	1,3	1+2	8	....	....
"	7	"	"	"	19	150	2	76	1,3	1+2	8	704	154
"	8	....	....	"	19	147	2	73	1,4(R) 1,3(L)	1+2	8	578	142
"	9	Shūshū, Nantō	March 1908	"	19	147	2	41	1,3	1+2	8	729	120
Medical School	3	Shinchiku	1905	Matsuyama	19	150	2	25	1,3	1+2	8	524	46

4. *Natrix vibakari* (Boie).

A specimen of this species, said to have been collected by Swinhoe in Formosa, should exist in the British Museum. According to Stejneger the locality seems however to be open to doubt.

5. *Natrix piscator* (Schneider).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	7	....	....	....	19	142	2	62	1,3(R) 1,4(L)	2+2	9	m.m. 543	m.m. 122
"	8	Kokwangai, Taihoku	....	....	19	129	2	82	1,3	2+2	8(R) 9(L)	555	64
"	9	"	....	....	19	143	2	75	1,3	2+2	9	610	155
"	10	"	....	....									
Formosan Mus.	10	Taihoku	Oct. 1908	Kikuchi	19	142	2	71	1,3	2+2	9	653	152
"	11	"	Sept. 1908	"	19	145	2	62	1,3	2+2	9	793	182
"	12	"	May 1907	"	19	141	2	63	1,3	2+2	9	787	165
Medical School.	4	"	....	....	19	132	2	85	1,3	2+2	8	605	193
"	5	"	1900	....	19	141	2	76	1,3	2+2	9	631	167
"	6	"	Sept. 1900	....	19	142	2	16	1,3	2+2	9	620	57
"	7	"	"	....	19	141	2	71	1,3	2+2	9	753	164

6. *Natrix annularis* (Hallowell).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of Tail.
B. Sci. Res.	11	Akō	June 4, 1909	Oshima.	19	157	2	60	1,3	2+3	9	m.m. 682	m.m. 125
"	12	Taihoku	....	....	19	157	2	48	1,3	2+3	9	657	97
"	13	"	....	....	19	162	2	61	1,3	2+3	8	513	103
Formosan Mus.	13	"	Sept. 1908	Kikuchi	19	145	2	73	1,4	2+3	9	216	53

7. *Natrix swinhonis* (Günther).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
Formosan Mus.	14	Banshiro, Kagi	May 14, 1907	Kikuchi	15	137	2	62	1,3	$\begin{smallmatrix} 1+2 \\ 1+2 \end{smallmatrix}$ Ly (R)	6	m.m. 463	m.m. 122
"	15	"	"	"	15	142	2	58	1,2	1+2	6	550	111

8. *Natrix trianguligerus* (Boie).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector	Scale rows.	Ventrals.	Anal	Subcaudals	Oculars.	Temporals.	Supra-labials.	Total length	Length of tail.
Formosan Mus.	86	....	....	Kikuchi	19	144	2	71	1,3	2+2	9	m.m. 420	m.m. 100

9. *Natrix namiei* n. sp.

Rostral twice as broad as deep, just visible from above; nasal semidivided; internasal much narrowed in front, with convex outer border, as long as prefrontals which are broader than long and broadly in contact with supraocular; frontal once and a half so long as broad, longer than the distance from tip of snout but considerably shorter than parietals; loreal divided into two shields, the upper one very small; three pre-and three post-oculars; three suboculars separating the eye from labials; anterior temporals 3, the following ones differentiated into minor shields; 7 supralabials, the fifth, sixth and seventh largest; four lower labials in contact with anterior chin-shields, which are shorter than the posterior. Scales very strongly keeled, in 25 rows; 149 ventrals; anal divided; 52 pairs of subcaudals.

Colour above (in alcohol) drab with a median series of irregular transverse, dark brown, blackrimmed spots, consisting of two halves, one on each side of median line, a whitish zigzag band occupying the interspace; top of head of a uniform dark brown colour; lips uniformly pale; underside pale drab, with numerous irregular blackish brown spots, which become paler anteriorly.

*Dimensions.*

Total length ..... 765 m.m.

Length of tail ..... 138 m.m.

Type: The Museum of the Government of Formosa, No. 85; locality and collector unknown.

Subfamily Homalopsinae.

**10. *Enhydris plumbia* (Boie).**

*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals	Supra-labials.	Total length	Length of tail.
B. Sci. Res.	14	....	....	....	19	126	2	37	1,2	1+2	8	m.m. 284	m.m. 34
"	15	....	....	....	19	128	2	23	1,2	1+2	8	380	38
"	16	....	....	....	19	123	2	35	1,2	1+2	8	207	27
Formosan Mus.	16	Horisha	Nov. 1, 1907	Kikuchi	19	131	2	40	1,2	1+2	8	428	51
"	17	Shinko	Jan 21, 1908	"	19	124	2	31	1,2	1+2	8	560	51
"	18	Taihoku	April 1908	"	19	131	2	35	1,2	2+2 (L) 1+2 (R)	8	458	55
"	19	Banshiro, Kagi	May 8, 1907	"	19	127	2	40	1,2	1+2	8	475	58
"	20	"	"	"	19	128	2	35	1,2	1+2	8	431	48
"	24	Taihoku	May 10, 1909	"	19	125	2	37	1,2	1+2	8	384	51
Medical School.	8	....	1904	....	19	127	2	41	1,2	3+2 (R) 1+2	8	142	22

**11. *Enhydris bennetti* (Gray).**

Dr. Stejneger mentions in his "Herpetology of Japan and Adjacent

Territory" that a specimen of the species from Formosa is contained in the Indian Museum (No. 12693). I myself have never yet come across a specimen.

### 12. *Hurria rynchops* (Schneider).

Dr. Stejneger mentions that a specimen of this species, collected by Mr. Navara in Formosa, exists in the zoological museum of the University of Christiania (Herpetol. Japan and Adj. Terr., p. 306).

Subfamily Coronellinae.

### 13. *Elaphe carinata* (Günther).

*Measurements of the specimens.*

Collection.	No.	Locality	Date.	Collector	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals.	Supra-labials	Total length.	Length of tail.
B. Sci Res.	55	....	....	....	23	213	2	92	1(+1),2	2+3	8	m.m. 510	m.m. 100
"	56	....	....	....	23	214	2	90	1(+1),2	2+3	8	500	109
Formosa Mus.	25	....	....	....	23	213	2	90	1(+1),2	2+3	8	1683	360
"	34	Taihoku	May 1908	Kikuchi	23	214	2	91	1(+1),2	2+3	8	640	178
Medical School.	13	....	....	....	23	211	2	93	1(+1),2	2+3	8	1547	335
"	14	....	....	....	23	216	2	87	1(+1),2	2+3	$\frac{9(L)}{8(R)}$	1740	340

Remark:—The specimens in the Bureau of Scientific Researches and the specimen No. 34 in the Formosan Museum are young forms. First row of temporals in specimen No. 13 of the Medical School Collection indistinctly divided into two parts.

### 14. *Elaphe rufodorsata* (Cantor).

Swinhoe should have obtained two specimens at Tamsui, which were sent to the British Museum.

**15. *Elaphe taeniurus* (Cope).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals	Supra-labials	Total length.	Length of tail.
Formosan Mus.	27	Shushu, Nanto	April 25, 1908	Kikuchi	25	251	2	105	1(+2),2	2+3	9	m.m. 1910	m.m. 338
"	28	Kagi	July 1908	"	25	243	2	113	1(+2),2	1+3	9	2368	457
"	29	Sanshichō, Kagi	April 23, 1908	"	25	258	2	114	1(+2),2	2+3	9	2055	450
"	26	Taichu	Oct. 1908	"	25	250	2	112	1(+1),2	2+3	9	522	107
Medical School.	12	....	....	....	25	250	2	96	1(+1),2	2+3	9	1695	345

Remark:—A variation in the number of temporals seems to be very common. Thus, specimen No. 27 of the Formosan Museum has the upper shield of first row nearly divided into three portions; the same shield in specimen No. 28 of the same collection is semidivided on the right side; that in specimen No. 29 is divided into two shields, while the lower shield is coalescent with the third of second row.

**16. *Liopeltis major* (Günther).***Measurements of the specimens.*

Collection	No.	Local'ty.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals	Supra-labials	Total length.	Length of tail.
B. Sci. Res.	17	....	....	....	15	164	2	90	1,2	1+2	8	m.m. 935	m.m. 240
"	18	Koshun	....	....	15	169	2	89	1,2	1+2	8	724	262
Formosan Mus.	21	Horisha	May 1908	Kikuchi	15	165	1	91	1,2	1+2	8	785	206
"	22	"	"	"	15	169	2	88	1,2	1+2	8	1013	252
"	23	Urai, Shinko	Dec. 1908	"	15	169	2	89	1,2	1+2	8	788	205
"	31	Kwannonzan	Feb. 1909	Suganuma	15	170	2	92	1,2	1+2	8	753	204
"	32	Taihoku	Sept. 1908	Kikuchi	15	164	2	64	1,2	1+2	8	296	66



Continued from last page.

Collection.	No	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
Formosan Mus. Medical School.	33	Taichu	Oct. 24, 1908	Kikuchi.	15	165	2	92	1,2	1+2	8	m.m. 350	m.m. 90
	9	Taikokan, Töen	Nov. 13, 1907	Governor Oshima	15	162	2	61	1,2	1+2	8	973	200
"	10	Shinko	1904	....	15	162	2	89	1,2	1+2	8	1057	270

**17. *Liopeltis kawakamii* n. s.p.**

Rostral much broader than high, just visible from above ; internasal quadrangular, nearly as long as broad and very much smaller than prefrontal which is in contact with narrow supraocular ; frontal as long as its distance from tip of snout and longer than interparietal suture, broader in front than behind, its posterior portion ending in an acute angle ; parietal one-third longer than distance of frontal from tip of snout ; nostril large, vertically elliptic, between two nasals, of which the posterior is much larger than the anterior ; loreal longer than high ; one preocular, not in contact with frontal ; two postoculars ; temporals 1+2 ; supralabials 8, the fourth and fifth entering the eye, the sixth in contact with lateral angle of parietal ; five lower labials in contact with superior chin-shields which are as long as the posterior ; 19 rows of smooth scales without pore ; ventrals 201, sharply angulated laterally ; anal divided ; 64 pairs of subcaudals.

Colour (in alcohol) pinkish brown, with 12 brown and black-edged cross-bars on body and 2 such on tail ; each bar about four scales wide ; a longitudinal brown stripe runs along both sides of vertebral line, interrupted anteriorly ; top of head of the ground colour ; a dark brown stripe from eye obliquely backward across upper temporal, continuous with the first cross-bar of body ; a straight stripe of same colour from tip of snout across the median line of head and ending at the posterior border of parietals.

*Dimensions.*

Total length ..... 494 m.m.

Length of tail..... 76 m.m.

Type.—Bureau Sci. Res., Formosa, specimen No. 60. Locality and collector unknown.

Remark.—The species is named for Mr. T. Kawakami, Director of the Museum of the Formosan Government.

*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	60	....	....	....	19	201	2	64	1,2	1+2	8	m.m. 494	m.m. 76
Medical School.	31	Shinchiku	1903	....	19	214	2	65	1,2	1+2	8	810	120
"	32	"	"	....	19	205	2	67	1,2	1+2	8	877	153

**18. *Ptyas mucosus* (Linnaeus).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	19	Koshun	....	....	17	197	2	117	2,2	2+2	8	m.m. 665	m.m. 196
Formosan Mus.	37	Kagi	July 1907	Kikuchi	17	191	2	115	2,2	2+2	8	2023	500
"	38	Horisha	May 1908	"	17	191	2	117	2,2	2+2	8	2410	615
Medical School.	11	Hoppo	1903	Mitsuyama	17	190	2	104	2,2	2+2	8	840	200

**19. *Ptyas korros* (Schlegel).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
Formosan Mus	35	Horisha	May, 1908	Kikuchi	15	165	2	128	2,2	2+2	8	m.m. 1540	m.m. 512
"	36	"	"	"	15	165	2	129	2,2	2+2	8	1600	553
Medical School	12	Shinchiku	....	....	15	163	2	59	2,2	2(+1) +2	8	900	222

**20. *Zaocys dhmnades* (Cantor).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	20	....	....	....	16	197	2	140	1,2	2+2	8	m.m. 1432	m.m. 452
Formosan Mus	39	Shūshū, Nanto	April 1908	Kikuchi	16	197	2	140	1,2	2+2	8	1855	540
"	40	"	"	"	16	195	2	143	1,2	2+0	8	1857	636

Remark.—The specimen No. 20 in the Bureau Sci. Res. and the specimen No. 40 in the Formosan Museum have a small sub-preocular. The latter specimen shows a great variation in the number of temporals, the second row of these being non-existent owing to confluence. The upper shield of second row is coalescent with parietal, forming a quadrangular shield.

**21. *Holarchus formosanus* (Günther).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	21	Manšu, Koshun	June 28, 1909	Oshima	19	164	1	45	1,2(L) 2,2(R)	1+2	6(R) 5(L)	m.m. 555	m.m. 85
Formosan Mus.	41	Taitoku	Aug. 1908	Kikuchi	19	167	1	45	2,2	1+2	8	519	84
Medical Schools	15	"	1904	....	19	167	1	41	2,2	1+2	8	640	76

Remark.—Specimen No. 41 of the Formosan Museum shows a small additional temporal on both sides.

**22. *Holarchus torquatus konishii* n. subsp.**

Rostral higher than broad, projecting, turned over on top of head, the portion visible from above being shorter than the distance from frontal; internasals oblique, much broader than long; suture between them shorter than that between prefrontals which are broadly in contact with supraoculars; frontal longer than broad, longer than its distance from tip of snout, a little shorter than parietals which are broad and truncate behind; nostril a quadrangular hole in the middle of a single nasal; loreal a little higher than broad, lower edge much shorter than the upper; one preocular, not in contact with frontal; two postoculars; temporals 2+2; six-supralabials, nearly all higher than long, the fifth and the sixth largest, the third and the fourth entering the eye; four lower labials in contact with anterior chin-shields which are much longer than the posterior; 15 rows of smooth scales; 159 ventrals, with sharp lateral angles; anal divided; 35 pairs of subcaudals.

Colour (in formalin) grayish brown above, with four darker, rather indistinct longitudinal bands, of which the two middle are much broader; tail darker; body with reddish brown and black-edged cross-bars, nine on trunk and two on tail; two pairs of small black spots between the cross-bars in the anterior three-fourths of body; head pale above, with two dark-brown and inverted V-shaped marking edged with black; one of them with the apex on prefrontal suture and passing through eye, the other with the apex in the posterior parts of frontal, the opening resting behind commissure; similar but broader markings on nape; labials and lower parts whitish, the latter with an ill-defined vinaceous-cinnamon streak in the middle line reaching to anal, flanked by numerous black quadrangular spots; subcaudals grayish white, each scale edged with dark-green.

*Dimensions.*

Total length ..... 455 m.m.

Length of tail..... 65 m.m.

Type.—The Museum of the Formosan Government, specimen No. 84; Urai, Shinkō, in the northern part of Formosa; August, 1909; late Mr. S. Konishi collector.

Remark.—Similar to typical *Simotes torquatus*, but with different markings on head and body.

*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
Formosan Mus. Middle School.	84	Urai, Shinkō, Botankō, Kéelung.	August 1909 .....	Konishi. .....	15	159	2	35	1,2	2+2	6	m.m. 455	m.m. 65
					15	172	2	35	1,2	2+2	6	247	17

**23. *Dinodon septentrionale rhustrati* (Fischer).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
Medical School	16	Shinchiku	.....	Matsuyama	17	217	1	103	1,2	2+3	8	810	182
	17	Koroton	June 18, 1908	Chōkinpō	17	218	1	81	1,2	2+3 (L) 2+3 (R)	8	810	165

**24. *Dinodon rufozonatum* (Cantor).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
B.Sci. Res.	22	....	....	....	17	205	1	86	1,2	<sup>2+2</sup> <sub>(L)</sub> <sup>2+3</sup> <sub>(R)</sub>	8	900	189
"	23	Akō	....	....	17	194	1	71	1,2	2+3	8	912	147
"	24	Kōshun	....	....	17	193	1	—	2,2	2+3	8	536	....
"	25	"	....	....	17	190	1	86	1,2	2+3	8	623	138
"	26	"	....	....	17	194	1	81	1,2	2+3	8	648	125
"	27	"	....	....	17	193	1	84	1,2	2+3	8	710	134
"	28	"	....	....	17	193	1	84	1,2	2+3	8	723	153
"	29	"	....	....	17	193	1	61	2,2	2+3	8	960	155
"	30	"	....	....	17	196	1	83	1,2	2+3	8	860	190
"	31	"	....	....	17	195	1	82	1,2	2+3	8	244	54
Formosan Mus.	42	Kagi	....	Kikuchi	17	198	1	79	1,2	2+3	8	929	184

Remark.—In the specimens No. 26, 29, 30 and 31 of the B. Sci. Res. and also in No. 42 of the Formosan Museum, loreal reaches the eye.

**25. *Dinodon multitemporalis* n. sp.**

Rostral just reaching the upper side of snout; internasal slightly broader than long, shorter than prefrontal, somewhat narrowed in front.

Supraoculars triangular, broadly in contact with prefrontals; frontal pentagonal, nearly as broad as long, shorter than interparietal suture; parietals large, twice as long as prefrontal; nostril between two subequal nasals; loreal somewhat higher than long, upper edge shorter than and parallel with the lower; two preoculars, of which the upper one extends to the dorsal surface of head, but not reaches

the frontal; two postoculars, the lower one of the left side coalescent with the fifth supralabial; temporals numerous, the upper smaller and scale-like, the lower somewhat larger; nine supralabials, the third, fourth and fifth entering the eye; five lower labials in contact with anterior chin-shields which are larger than the posterior, the latter separated by two pairs of elongated scale; 21 rows of smooth scales; 245 ventrals with sharp lateral angle; anal divided. Colour (in alcohol) pinkish gray with 56 reddish brown cross-bars on body and about 32 on tail, the bars having darker margins and being continuous in the posterior parts; top of head yellowish brown, with ill-defined markings; a brown short band from tip of snout reaches to the posterior border of prefrontal; side of head of the ground colour, with a brown, broad, horizontal postocular band extending to nape; a similar band from the posterior corner of supraocular reaches to the level of the posterior border of parietals; under side dusky white.

*Dimensions.*

Total length ..... 1040 m.m.

Length of tail ..... 290 m.m.

Type.—Bureau Sci. Res., specimen No. 57; locality and collector unknown.

Variation.—The lower preocular occasionally confluent with loreal.

*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	56	Kōshun	....	....	21	234	2	154	2,2	..	8(L) 9(R)	m.m. 1120	m.m. 320
"	57	....	....	....	21	245	2	15	2,2(R) 2,1(L)	....	9	1040	290
"	58	Kōshun	....	....	21	234	2	144	2,2	....	9	1122	310
"	59	"	....	....	21	235	2	158	2,2	....	9	510	142
Medical School.	18	Shinchiku	1903	Matsuyama	21	247	2	145	2,2	....	9	1058	290
"	19	"	"	....	21	233	2	123	2,2	....	10(L) 9(R)	1280	320

**26. *Caramaria berezowskii* (Günther).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
Formosan Mus.	43	Taichū	Oct. 1908.	Kikuchi	13	167	1	13	1,1	....	4	285	20
B. Sci. Res.	32	Kuraru, Koshun	June 29, 1909	Oshima.	13	167	1	23	1,1	....	5(R), 4(L)	285	25

## Subfamily Boiginae.

**27. *Boiga kraepelini* Stejneger.**

Stejneger mentions in his work, p. 387, that two specimens of this species were collected by Dr. Warburg, one at Keelung and the other near South Cape, while the third specimen from Formosa is contained in the Honkong Museum. I have seen no specimens of the species.

**28. *Psammodynastes pulverulentus* (Boie).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	33	Koshun.	....	Kurokawa	17	173	1	62	2,2	2(+1) +3	8	m.m. 625	m.m. 125
"	34	Mansu, Koshun	....	....	17	168	1	70	2,2	2+3	8	436	116
Formosan Mus.	44	Urai, Shinkō	Dec. 1908	Kikuchi	17	171	1	55	2,2	2+3	8	286	36
"	45	Horisha	Nov. 1908	"	17	172	1	60	2,3(L) 2,2(R)	2+3 2+3	8	430	80
"	46	Taichu	Oct. 1908	"	17	175	1	60	2,2	2+2 (L) 2+3 (L)	8	550	100
"	47	Kōtōsho	Jan. 10, 1909	"	17	167	1	47	1,2	2+3 (L) 2+2 (R)	8	502	89
"	48	"	"	"	17	164	1	79	2,2	2+3 (R)	8	547	128
"	49	"	"	"	17	161	1	72	1,2	2+3	8	321	76
Medical School.	21	Shinchiku	1903	Matsuyama	17	167	1	64	1,2	2+2 (L) 2+3 (R)	8	520	102



**29. *Psammodynastes compressus* n. sp.**

Body laterally compressed, tail prehensil. Rostral higher than broad, not visible from above; internasal small, only one third the size of prefrontal, abruptly truncated anteriorly, with convex outer border; prefrontals very large, broadly in contact with supraocular, loreal and preocular, their posterior outer border in contact with eye; frontal nearly pentagonal, its posterior outer margin sharply angulated; supraocular moderate; parietals large, suture between them longer than frontal; nostril a round hole in the middle of a single nasal; canthus rostralis overhanging the concave loreal region; loreal nearly quadrangular, with convex posterior margin; a single concave preocular; two postoculars; lower parts of pre-and post-oculars in contact with each other, separating the eye from supralabials; temporals 2+3; 8 supralabials on the right, 7 on the left; 5 lower labials, 3 in contact with the first pair of chin-shields, of which there are three pairs, the first pair being triangular and the following two laterally elongated; scale smooth, without pits, in 15 rows; ventrals 182; anal single; subcaudals 75. Colour (in alcohol) vinaceous cinnamon, paler inferiorly, with ill-defined brown cross-bars; each scale having numerous fine dots of the same colour; top of head of the ground colour, spotted with dark brown small patterns; lip and underside paler; narrow dark brown stripe from eye backward across the temporal region ending on nape; ventrals spotted with brown.

*Dimensions.*

Total length ..... 608 m.m.

Length of tail ..... 135 m.m.

Type.—Bureau of Sci. Res., specimen No. 61; from Kokwangai, Taihoku.

Family Elapidæ.

Subfamily Elapinae.

**30. Calliophis maclellandi** (Reinhardt).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	35	....	....	....	13	234	2	34	1,2	1+1	7	m.m. 470	m.m. 42
Medical School.	46	Shinchiku	1903	Matsuyama	13	234	2	32	1,2	1+1	7	485	45

**31. Naja naja atra** (Cantor).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows neck.	Scale rows body.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra- labials.	Total length.	Length of tail.
B. Sci. Res.	37	Kontei, Kōshun	June 2, 1907	Nagamine	24	19	168	1	48	1,3	2+1	7	m.m. 1384	m.m. 209
"	38	Koshun	....	....	25	21	174	1	48	1,3	2+1	7	580	83
"	39	"	....	....	24	21	170	1	50	1,2	2+1	7	518	80
"	36	....	....	....	24	21	172	1	44	1,2	2+1	7	453	67
Formosan Mus.	51	....	Oct. 1908	Kikuchi	24	21	168	1	46	1,3	2+1	7	840	144
"	52	Keelung	Sept. 5, 1908	....	24	21	172	1	44	1,3	2+1	7	550	178
"	53	Horisha	May 1908	Kikuchi	25	21	168	1	51	1,3	2+1	7	1082	176
"	54	"	"	"	25	21	169	1	46	1,3	2+1	7	1654	232
Medical School	23	Tamsui	....	Mackey	24	21	169	1	45	1,3	2+1	7	1067	152
"	24	Hoppo.	1903	Matsuyama	24	21	169	1	45	1,2	2+1	7	572	60
"	25	Tamsui.	....	Mackey	23	19	165	1	47	1,2 1+1 (L) 1+2 (R)	7	723	122	

**32. *Bungarus multicinctus* (Blyth).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
Formosan Mus.	55	Taihoku	June 1908	Kikuchi	15	211	1	41	1,2	1+2	7	m.m. 1349	m.m. 131
"	56	"	Aug. 1908	"	15	218	1	49	1,2	1+2	7	764	92
"	57	"	April 1908	"	15	209	1	43	1,2	1+2	7	380	40
"	58	Horisha	May 1908	"	15	213	1	46	1,2	1(+1) <sub>+1</sub>	7	1141	124
"	59	Taihoku	June 1908	"	15	215	1	44	1,2	1(+1) <sub>+2</sub>	7	916	100
"	60	"	May 18, 1908	"	15	211	1	43	1,2	1+2	7	1022	112
"	61	"	April 1905	"	15	209	1	46	1,2	1+2	7	1320	136
B.Sci. Res.	40	Koshun	....	....	15	204	1	42	1,2	1+2	7	306	39
"	41	"	....	....	15	208	1	40	1,2	1+2	7	404	45
"	42	"	....	....	15	209	1	47	1,2	1+2	7	673	80
"	43	"	....	....	15	212	1	41	1,2	1+2	7	1088	111
Medical School	26	Taihoku	June 1905	....	15	212	1	48	1,2	1+2	7	1250	160
"	27	Hoppo	1903	Matsuyama	15	210	1	48	1,2	1+2	7	1398	177
"	28	Taihoku	1903	....	15	215	1	43	1,2	1+2	7	369	46
"	29	"	1903	....	15	210	1	46	1,2	1+2	7	294	43
"	30	"	....	....	15	214	1	48	1,2	1+2	7	740	90

Remark.—The lateral head shields are subject to a considerable variation, viz., both postoculars (sometimes only the lower one) may be confluent with the fourth supralabial, forming an irregular large shield.

## Subfamily Hydrinæ.

**33. *Laticaudata laticaudata* (Linnaeus).**

Two specimens in the University Museum of Christiana, collected

by Mr. Navara on the coast of Formosa and one specimen in the United States National Museum.

### 34. *Laticaudata semifasciata* (Reinwardt).

#### *Measurements of the specimen.*

Collection	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals	Dark rings on the body.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.
Formosan Mus.	64	Kwashōtō	July 1, 1908	Kikuchi	23	190	2	37	38	1,2	2+3	7	m.m. 1222	m.m. 133

### 35. *Disteira melanocephala* (Gray).

#### *Measurements of the specimen.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows on neck.	Scale rows on body.	Ventrals.	Subcaudals.	Oculars.	Temporals.	Supra-labials.	Total length.	Length of tail.	Width of head.	Diameter of neck.	Greatest height of body.	Greatest height of tail.
Formosan Mus.	63	Ajinkotō	Oct. 1, 1908	....	27	38	342	47	1,2	1+3	8	m.m. 1203	m.m. 110	m.m. 14	m.m. 13	m.m. 31	m.m. 20

### 36. *Disteira godeffroyi* (Peters).

#### *Measurements of the specimen.*

Collection.	No.	Locality.	Date.	Collector.	Scale row on neck.	Scale row on body.	Ventrals.	Subcaudals.	Oculars.	Anterior temporals.	Supra-labials.	Total length.	Length of tail.	Width of head.	Diameter of neck.	Greatest height of body.	Greatest height of tail.
Medical School	33	Keelung.	1908	Hattori	32	40	279	40	1,2	2	7	m.m. 810	m.m. 75	m.m. 11	m.m. 9	m.m. 27	m.m. 13

Remark.—The posterior pair of chin-shields separated by two scales which are pointed anteriorly.

**37. *Hydrus platurus* (Linnaeus).***Measurements of the specimen.*

Collection.	No.	Locality.	Date.	Collector	Scale rows. on body.	Total length.	Length of tail.	Width of head across center of eye.	Length of snout from center of eye.	Greatest height of head.	Greatest height of body.	Greatest height of tail.	Preocular.	Subocular.	Postocular.	Supra- labials.	Anterior temporals.
Formosan Mus. Medical School.	65	Keelung	....	Kawakami	53	749	72	12	30	32	19		2(R) 1(L)	1(L) 0(R)	2(L) 3(R)	7	3
	34	Tamsui	....	Mackey	46	710	72	10	25	35	15		1	0	2	7	3
	35	Keelung	Oct. 1903	Taka- yanagi	54	578	64	10	22	20	13		1	2	2	7	2
	36	"	....	....	48	707	70	11.5	21.5	27	15		1	0	2	9	3

Remark.—The lateral shields of head are subject to various modifications, viz., the fourth supralabial may enter the eye when subocular is not present; the number of supralabials is variable. Chin-shields in specimen No. 65 of the Formosan Museum and in specimen No. 35 of the Medical School are differentiated, while in the two other specimens, there are recognizable two pairs of enlarged scales not in contact with each other.

## Family Cobridæ.

**38. *Agkistrodon acutus* (Günther).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Supra- labials.	Total length.	Length of tail.
B. Sci. Res. Medical School. Formosan Mus.	55	Koshun	....	....	20	163	1	54	2,2	7	m.m. 980	m.m. 125
	37	Hoppo	1903	....	21	166	1	48	2,2	7	450	60
	67	Taichū	July 2, 1908	Kikuchi	21	156	1	54	3,2	7	818	106
	68	Horisha	May 7, 1908	"	21	167	1	48	2,2	7	830	104
	69	"	Sept. 10, 1908	"	21	166	1	46	2,2	7	1380	139
	70	Shinkō	May 15, 1908	"	21	165	1	49	2,2	7	1290	163

**39. *Trimeresurus mucrosquamatus* (Cantor).***Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Interorb-itals.	Supra-labials.	Total length.	Tail length.
B. Sci. Res	53	Koshun	...	....	27	219	1	88	14	9	m,m. 1025	m,m. 159
"	54	Taihanroku, Koshun	May 30, 1929	Oshima	27	202	1	92	15	8(R) 10(L)	787	150
Medical School.	41	Shinchiku	1923	Matsuyama	27	210	1	86	18	10	915	165
"	42	"	"	"	25	212	1	79	14	10	1012	155
"	43	"	"	"	27	207	1	82	14	9	844	146
"	44	Nanshō, Shinchiku	"	Honda	27	212	1	88	15	10	905	170
"	45	Jukirin	"	....	27	206	1	64	15	9	1015	155
Formosan Mus.	81	Horisha	Nov. 1, 1908	Kikuchi	27	213	1	84	15	9(L) 8(R)	1005	165
"	82	Urai	Dec. 1908	"	29	215	1	73	17	10(R) 8(L)	1439	188
"	83	Taihoku	May 1924	....	27	214	1	76	15	8(R) 7(L)	1185	200

**40. *Trimeresurus flavoviridis* (Hallowell).***Measurements of the specimen.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Interorb-itals.	Supra-labials.	Temporals.	Total length.	Length of tail.
B. Sci. Res.	52	....	....	....	34	226	1	77	12	8	2+2	565	80

Remark.—The single specimen examined is said to have been collected near Taihoku, but the locality is somewhat doubtful.

41. *Trimeresurus gramineus* (Shaw).*Measurements of the specimens.*

Collection.	No.	Locality.	Date.	Collector.	Scale rows.	Ventrals.	Anal.	Subcaudals.	Oculars.	Interorb-itals.	Supra-labials.	Total length.	Length of tail.
B. Sci. Res.	44	Kuraru, Koshun	June 29, 1909	Oshima.	21	159	1	72	2,3	13	10	m.m. 532	m.m. 140
"	45	"	"	"	21	161	1	63	2,2	14	10	650	140
"	46	Koshun	....	....	21	159	1	68	2,3	12	10	608	103
"	47	"	....	....	21	164	1	73	2,3	12	9	632	136
"	48	"	....	....	21	161	1	72	2,3	12	9(R) 10(L)	723	155
"	49	"	....	....	22	131	1	66	2,3	12	9	487	93
"	50	"	....	....	21	165	1	71	2,3	12	10(L) 8(R)	595	219
"	51	"	....	Kurokawa	21	164	1	67	2,3	11	9	652	116
Formosan Mus.	71	Horisha	Nov. 1, 1908	Kikuchi	20	167	1	72	2,3	14	10	739	152
"	72	"	"	"	21	168	1	63	2,3	14	12(L) 11(R)	800	122
"	74	"	"	"	21	168	1	64	2,2	13	12(L) 11(R)	782	113
"	75	Banshiro, Kagi	May 14, 1908	"	21	163	1	64	2,3	14	9	630	114
"	76	....	May 1908	"	21	164	1	68	2,2	13	11(L) 10(R)	575	104
"	77	Kwanonsan	Feb. 1909	Suganuma	21	159	1	65	2,2	12	10	300	70
"	78	Taichū	Oct. 1908	Kikuchi	21	169	1	70	2,2	13	10(R) 9(L)	739	140
Medical School.	39	Hoppo	1903	Matsuyama	21	161	1	65	2,2	12	9	505	81
"	40	"	"	"	21	158	1	67	2,2	13	9	622	120